

2.4-2.5 Review Worksheet

Target 2C (Section 2.5)

Solve (rearrange) each equation for m . Then find the value of m given a value for n .

1. $m + 3n = 7$ $n = -2$

$$\begin{array}{r} -3n \quad -3n \\ \hline m = 7 - 3n \end{array}$$

$$\begin{aligned} m &= 7 - 3(-2) \\ &= 7 + 6 \\ &= 13 \end{aligned}$$

2. $3m - 9n = 24$

$n = 1$

$$\begin{array}{r} +9n \quad +9n \\ \hline \frac{3m}{3} = \frac{9n + 24}{3} \\ m = 3n + 8 \end{array}$$

$$\begin{aligned} m &= 3(1) + 8 \\ &= 3 + 8 \\ &= 11 \end{aligned}$$

3. $8n = -3m + 1$ $n = -2$

$$\begin{array}{r} +3m \quad +3m \\ \hline 3m + 8n = 1 \\ -8n \quad -8n \\ \hline \frac{3m}{3} = \frac{1 - 8n}{3} \end{array}$$

$$m = \frac{1 - 8n}{3}$$

4. $2m = -6n - 5$

$n = 1$

$$\begin{aligned} m &= \frac{1}{3} - \frac{8(-2)}{3} \\ &= \frac{1}{3} + \frac{16}{3} \\ &= \frac{17}{3} \end{aligned}$$

$$m = -3n - \frac{5}{2}$$

$$\begin{aligned} m &= -3(1) - \frac{5}{2} \\ &= -3 - \frac{5}{2} \\ &= -\frac{11}{2} \end{aligned}$$

Solve (rearrange) each equation for x .

5. $fx - gx = h$

$$\begin{aligned} x(f - g) &= h \\ x &= \frac{h}{f - g} \end{aligned}$$

6. $p(m) = \left(\frac{x+n}{p} \right) p$

$$\begin{aligned} pm - n &= x \end{aligned}$$

7. $d = f + fx$

$$\begin{array}{r} -f \quad -f \\ \hline \frac{d - f}{f} = \frac{fx}{f} \end{array}$$

$$\frac{d}{f} - 1 = x$$

8. $qx + x = r$

$$\begin{aligned} x(q + 1) &= r \\ x &= \frac{r}{(q + 1)} \end{aligned}$$

9. $7x - y = 14$

$$\begin{aligned} 7x &= y + 14 \\ x &= \frac{y}{7} + 2 \end{aligned}$$

10. $y = 5x - 6$

$$\begin{aligned} y + 6 &= 5x \\ \frac{y}{5} + \frac{6}{5} &= x \end{aligned}$$

11. $y = mx + b$

$$\begin{array}{r} -b \quad -b \\ \hline \frac{y - b}{m} = \frac{mx}{m} \end{array}$$

$$x = \frac{y}{m} - \frac{b}{m}$$

12. $ax + by = c$

$$\begin{array}{r} -by \quad -by \\ \hline \frac{ax}{a} = \frac{c - by}{a} \end{array}$$

$$x = \frac{c - by}{a}$$

13. $A = \left(\frac{x+y}{2} \right) 2$

$$\begin{array}{r} 2A = x + y \\ -y \quad -y \end{array}$$

$$2A - y = x$$

"Who wrote the book 'Terrible Weather'?"

Solve for x. The answer to each problem will match a letter that will allow you to figure out the joke.

B. 4

Y. No Solution

N. 10

I. -11

S. -2

P. -3

V. -7

E. 1

W. 5

F. -6

O. 3

A. -1

R. 2

W. 8

Y. -13

D. 0

1. $5x - 7 = 4x + 3$

$$\begin{array}{r} -4x \\ 5x - 7 = 4x + 3 \\ -4x \quad -4x \\ \hline x - 7 = 3 \\ +7 \quad +7 \\ \hline x = 10 \end{array}$$

$x = 10$

2. $6 + 2x = 7x - 9$

$$\begin{array}{r} -2x \quad -2x \\ 6 + 2x = 7x - 9 \\ -2x \quad -2x \\ \hline 6 = 5x - 9 \\ +9 \quad +9 \\ \hline 15 = 5x \\ \div 5 \quad \div 5 \\ \hline 3 = x \end{array}$$

$5x = 15$

$x = 3$

3. $8x + 1 = -8 - x$

$$\begin{array}{r} +x \quad +x \\ 8x + 1 = -8 - x \\ +x \quad +x \\ \hline 9x + 1 = -8 \\ -1 \quad -1 \\ \hline 9x = -9 \\ \div 9 \quad \div 9 \\ \hline x = -1 \end{array}$$

$9x = -9$

$x = -1$

4. $-5 + 12x = 18x + 7$

$$\begin{array}{r} -12x \quad -12x \\ -5 + 12x = 18x + 7 \\ -12x \quad -12x \\ \hline -5 = 6x + 7 \\ -7 \quad -7 \\ \hline -12 = 6x \\ \div 6 \quad \div 6 \\ \hline -2 = x \end{array}$$

$6x + 7 = -5$

$6x = -12$

$x = -2$

5. $-4x + 3 = 5x - 13 - x$

$$\begin{array}{r} +4x \quad +4x \\ -4x + 3 = 5x - 13 - x \\ +4x \quad +4x \\ \hline 3 = 8x - 13 \\ +13 \quad +13 \\ \hline 16 = 8x \\ \div 8 \quad \div 8 \\ \hline 2 = x \end{array}$$

$3 = 8x - 13$

$16 = 8x$

$x = 2$

6. $-10 - 11x + 24 = 3x$

$$\begin{array}{r} +11x \quad +11x \\ -10 - 11x + 24 = 3x \\ +11x \quad +11x \\ \hline 14 = 14x \\ \div 14 \quad \div 14 \\ \hline 1 = x \end{array}$$

$16 = 8x$

$2 = x$

$x = 1$

7. $8 + 3x = x + 11 + 2x$

$$\begin{array}{r} -3x \quad -3x \\ 8 + 3x = x + 11 + 2x \\ -3x \quad -3x \\ \hline 8 = x + 11 \\ -11 \quad -11 \\ \hline -3 = x \end{array}$$

$8 = 11$ FALSE NO SOLUTION

8. $5 + 17x + 9 = 2x + 21x + 14$

$$\begin{array}{r} -17x \quad -17x \\ 5 + 17x + 9 = 2x + 21x + 14 \\ -17x \quad -17x \\ \hline 14 = 23x + 14 \\ -14 \quad -14 \\ \hline 0 = 23x \\ \div 23 \quad \div 23 \\ \hline 0 = x \end{array}$$

$14 = 23x + 14$

$x = 0$

9. $6x + 8 - 13x + 10 = 4 - 6x - 11 + 4x$

$$\begin{array}{r} -7x \quad +18 \quad +7x \\ 6x + 8 - 13x + 10 = 4 - 6x - 11 + 4x \\ -7x \quad +18 \quad +7x \\ \hline -7x + 18 = -2x + 7 \\ +7x \quad +7x \\ \hline 18 = 5x + 7 \\ -7 \quad -7 \\ \hline 11 = 5x \\ \div 5 \quad \div 5 \\ \hline 2.2 = x \end{array}$$

$18 = 5x + 7$

$x = 5$

10. $-14 + 5 - x - 3 = x + 6 + x + 3x$

$$\begin{array}{r} -12 - x = 5x + 6 \\ +x \quad +x \\ \hline -12 = 6x + 6 \\ -6 \quad -6 \\ \hline -18 = 6x \\ \div 6 \quad \div 6 \\ \hline -3 = x \end{array}$$

$x = -3$

W A Y N E D R O P S